

## **THE IMPACT OF COMMUNICATION ON PROJECT PERFORMANCE: AN EMPIRICAL STUDY**

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### **ABSTRACT**

The role of communication in project management has been debated intensively for decades, and investigated from various perspectives in project management literature. Communication is identified as a requisite to success and its ineffectualness a contributing factor to the failure of many projects. While some researchers may have considered communication as a mere success factor in project management, others have identified communication as an important skill and a required competency for project managers. It appears that there is a need to establish contextual and empirical evidence on how communication impacts project performance. With the emergence of social medias as the most popular communication tool in existence at the moment, it has become extremely important to identify the best set of tools and techniques to be used for successful management of communication. This paper aims to investigate and evaluate the relationship between communication and project management performance. It explores some of the tools required for the successful management of communication, as well as the extent to which communication affects project outcomes. A quantitative research approach was used to gain insight into current communication practices in the project management industry. A survey in the form of a questionnaire was distributed to a sample population consisting of professionals involved in project management. A response rate of 70, 7% participation was received and analysed using the e-survey creator on-line tool and statistical analysis using SPSS. The purpose of the survey was to test the evidence in the literature in order to answer the research objectives. The results indicated that there was a strong positive relationship between communication and project outcomes. Communication increases success rates and improves the overall performance of projects. The vital role of communication is clearly recognised as indicated by the empirical evidence gathered from the survey. The tools and techniques required to manage communication successfully are identified together with the Information Communication technology (ICT) support tools. Moreover, the results have established that project managers who regard communication as one of the most important factors contributing to the success of projects, have achieved higher success rate in their projects than the other participants. The high success rate seen on their projects is perceived as a direct result of effective communication. This paper contributes to the project management body of knowledge by producing empirical evidence on the impact of communication on the performance of projects, and provides the best set of tools and techniques that are required to manage communication successfully. The paper further single out social media tools which may be used to improve project communication. The findings form the basis of further development on how and to what extend the identified social media should be used as a means of project communication, and what the impact thereof would be. These tools have the potential to transform communication in the project management field. The use of social media in projects is still a highly debatable issue, and the exploration of the extent to which social media should be used to improve

communication in project management would be a great contribution to the body of knowledge as its use demonstrates considerable risks and controversies.

**Key words:** Social Media, Project Management, Project communication, Project Performance

## INTRODUCTION AND BACKGROUND

Failure to deliver successful projects has been top of the list of management concerns for many years, and communication has been identified as the main reason why organizations fail to influence and achieve success in project management.

The role of communication and its significance in project management literature has been investigated intensively, focusing on the relationship between communication and project management. This has led to communication being linked to the success or failure of projects (Soderlund, 2011; Wateridge, 1995; Yeo, 2002).

According to Baker (2007) 95% of all project problems result from poor communication, and thus communication should be of higher importance in project management. Lester (2007, pp. 289-295) could not have said it better than this: "Information together with communication is the very life blood of project management". For the purpose of this paper, communications includes all means of interaction within projects (Butt, Naaranoja & Savolainen, 2016). Various types of communication are identified within the literature. Diverse types of communication are summarized in Figure 1 (Ramsing, 2009 & Kerzner, 2011):

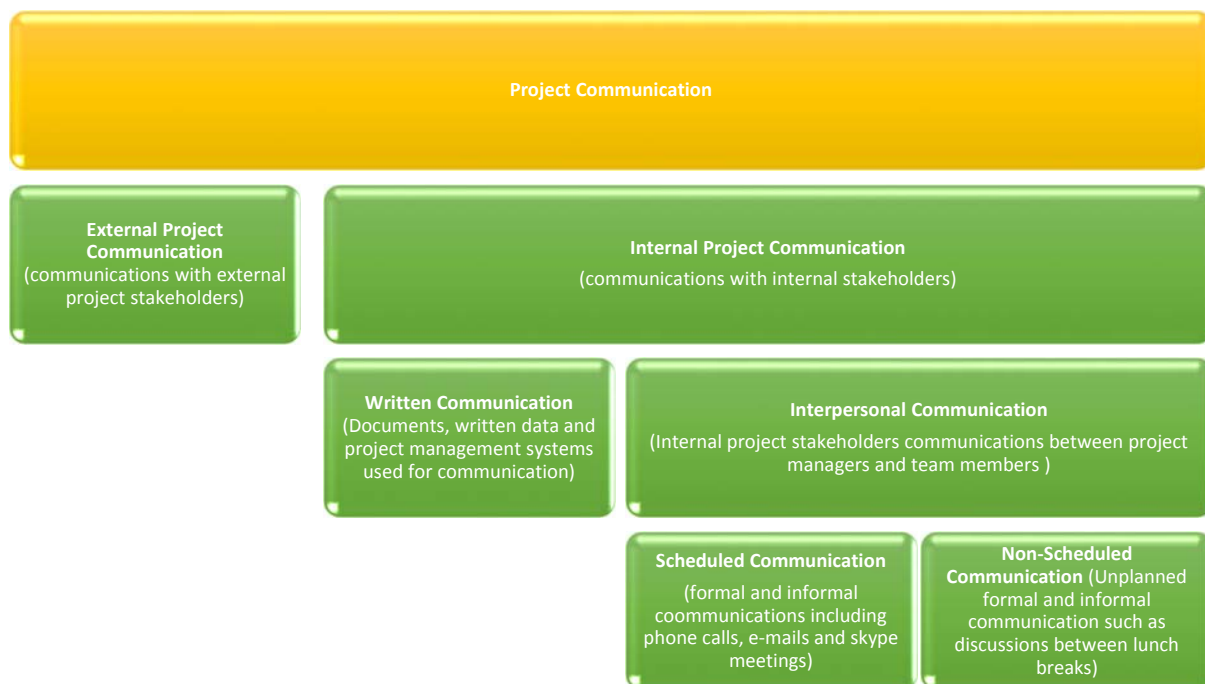


Figure 1: Project Communication adapted from Ramsing, 2009 & Kerzner, 2009

Both internal and external communication play significant roles within projects, as per Figure 1. Internal project communication impacts project performance greatly as this is where the biggest part of the project activities are executed.

Various mediums such as technology and face-to-face interactions are being used to communicate particular messages to internal audiences, depending on the type of message and the audience being communicated to. Internal communications occur more frequently than external communications due to the constant engagement between internal project stakeholders as part of the project management duties. Therefore, internal communication in its very nature is crucial to the success of a project.

The project management literature discusses the importance of effective communication and its impact on project outcomes (Fortune & White, 2006; White & Fortune, 2002). Pinto and Slevin (1988a) singles out poor communication as the reason why projects fail, a view echoed by Varajão, Cunha, Bjorn-Andersen, Turner, Wijesekera, Martinho, Rijo, Montequin, Cousillas, Ortega & Villanueva (2014). For project managers to be effective, communication is a required competency (Brill et. al, 2006) in the implementation of project management work (Anderson, 2003), and the improvement of crucial outcomes within projects (Henderson, 2004, 2008). Widely used frameworks and methodologies such as PMBoK and PRINCE focuses on communication as an important area and as a tool to wield to manage projects effectively (PMI, 2008; OGC, 2005).

Project performance refers to how the project is being executed throughout its lifecycle. This includes the indicators being used to assess whether or not the project performs successfully. Commonly agreed success criteria considers constraints such as scope, time, and cost (Belassi and Tukel, 1996; Westerveld, 2003), with client satisfaction and requirements adding to the well-known traditional triangle (Belassi and Tukel, 1996; White and Fortune, 2002). For the purpose of this study, communication will be used as critical success criteria to determine the performance of the project based on the impact communication has.

Whilst the importance of communication is largely discussed from various perspectives in the literature, empirical research as evidence on how communication impacts the performance of projects is still lacking, including the best set of tools and techniques to be used for successful management of communication.

## **LITERATURE REVIEW**

This section discusses communication literature and provides an overview of the body of knowledge around the role of communication in projects and project management. Within this section, communication will be discussed as a success factor, as a competency for project managers, project communication frameworks and methodologies, and project communication management tools including social media.

### **Communication as a critical success factor**

Critical success factors refer to variables or aspects of project management that have a detrimental impact on projects when these are not managed appropriately (Alias, Yusof & Aris, 2014). These factors can have a significant impact on the performance and success of projects. Not only do organizations use projects to implement and complete business operations (Kerzner, 2011), but there is an expectancy for growth and investment return on these projects. Therefore, organisations need to understand what critical factors can hinder expected gains from projects, and how to best manage these. This section discusses communication as a critical success factor (CSF).

Pinto and Slevin (1987, 1988a, 1988b & 1989) established an important foundation and contribution to the development of project success in the early 1980's. Other researchers conducted over the years have contributed to a substantial amount of factors that are critical to the success or failure of a project (Alias, 2014; Belassi & Tukkel, 1996; Fortune & White, 2006; Ramos & Mota, 2014; Sudhakar, 2012; White & Fortune, 2002). A comparison of various critical success factors (CSF) viewed by previous authors in the field are displayed in Table 1.

Table 1: Critical Success factors

	<i>Pinto &amp; Slevin (1988a)</i>	<i>Belassi &amp; Tukkel (1996)</i>	<i>White &amp; Fortune (2002)</i>	<i>Fortune &amp; White (2006)</i>	<i>Sudhakar (2012)</i>	<i>Ramos &amp; Mota (2014)</i>	<i>Alias et al. (2014)</i>	<i>Ihuah (2014)</i>
<i>Top Management Support</i>	✓	✓	✓	✓	✓		✓	✓
<i>Client Consultation</i>	✓	✓						
<i>Clear goals and objectives</i>		✓	✓	✓				
<i>Communication</i>	✓	✓	✓	✓	✓	✓	✓	✓
<i>Schedule</i>	✓	✓				✓		
<i>Resources</i>		✓	✓	✓				✓
<i>Project Mission</i>	✓							✓
<i>Technology</i>	✓							
<i>Client acceptance</i>	✓							
<i>Trouble-shooting expertise</i>	✓				✓		✓	
<i>Planning and Control</i>		✓						✓
<i>Monitoring and feedback</i>		✓						✓
<i>Risk Management</i>			✓			✓		✓
<i>Efficient Planning</i>				✓		✓		✓
<i>Performance monitoring</i>				✓				
<i>Teamwork</i>						✓		
<i>Cost</i>					✓	✓		✓
<i>Scope</i>						✓		
<i>Client Involvement</i>					✓	✓		✓
<i>Technical Skills</i>					✓			
<i>Realistic expectations</i>					✓			
<i>Time</i>								✓
<i>Skilled Managers and Designers</i>							✓	✓

Table 1 indicates that communication is unanimously identified as a critical success factor (CSF) amongst the various authors.

Sudhakar (2012) created a conceptual model of CSF for software development, which categorizes CSF's into seven (7) categories. Communication is listed as one of the seven (7) CSF categories, and includes factors such as leadership roles, relationship between users and information systems staff, reduced ambiguity and maximised stability.

Looking at the characteristics of communication listed, not only does it take into account communication itself but Sudhakar (2012) looks at the various roles that influence the type of communication to be used, the communications relationships between various stakeholders within the project as well as the context within which communication is being used.

From a Research and Development (R & D) perspective, various authors have made substantial contributions to this area. Pinto and Pinto (1990) discovered that the increased use of informal methods for communication and the reasons for communicating differs substantially between high-cooperation and low-cooperation project teams. Equally substantial, Katz (1892) seminal study found that poor communications greatly impacts team performance.

According to Griffin and Hauser (1992) successful project teams who quickly adapt their way of communication are able to overcome various problems associated with organizational structures. Hauptman and Hirji (1996) established that two-way communication and the inclination between project members to share vast amounts of information have a positive impact on project teams operating across national boundaries.

Cervone (2014) attributes to the project team, the responsibility of ensuring effective communication for achieving project success. From this perspective, the evidences are quite conclusive; communication among project team members is a valid and vital predictor of project outcomes. Communication is more than just an exchange of information between project stakeholders, but it is a way for project managers to generate the groundwork for a project. It is therefore also a skill required to ensure a project performs effectively.

### **Communication as a competency for project managers**

Earlier studies see communication as an important skill needed by project managers to be efficient (Thamhain & Gemill, 1974), a required competency for project managers to be effective (Brill, J.M., Bishop, M.J., & Walker, A.E., 2006). These views corroborate the key studies around communication done by Slevin and Pinto (1988a; 1988b; 1987; 1989).

Slevin and Pinto (1987) used case studies to demonstrate how project managers use communication as a tool to accomplish project management activities. Sotiriou and Wittmer's (2001) study on the perception of the influence methods of project managers, found that the most important communication competency for a project manager was their ability to influence through persuasion and negotiation.

As asserted in the earlier study of Thamhain and Gemills (1974), Sotiriou and Wittmer (2001) considered communication a skill which provides project managers with an essential foundation which can be used to influence the conditions and the outcomes of projects. This once again, affirms that communication is a key competency required for project managers to determine the success or failure of a project.

However, it must be clarified from the outset, that communication is only one of many components that contributes to the competency of a project manager, thereby forming part of the project manager's leadership style, which ultimately contributes to the success of a project (Turner and Muller, 2005).

Various studies conducted also investigate competencies as predictors of success in leadership (Hyväri, 2006; Ihuah et al., 2014; Ika, Diallo & Thuillier, 2012; Khang & Moe, 2008). Wren and Dulewicz (2005) identified communication as one of the most important leadership competencies for success, over and above empowerment and the management of resources. Young and Dulewicz (2006) found that communication was a pre-requisite to interaction with teams in any type of situation, including coordination, decision-making, leadership and motivation.

Turner, Muller and Dulewicz (2009) compare leadership styles between project managers and functional managers to scrutinise the different competencies that both the project and functional managers demonstrate. With a sample of 414 project managers and over 1000 functional managers, the results obtained were quite surprising. Project managers scored lower on communication and development competencies than functional managers, thus contradicting the assumption that project managers were more capable at project management than functional managers were. This also raises the question of whether project managers really understand the importance of communication in achieving project success.

### **Project communication frameworks and methodologies**

An evaluation of the current literature reveals that there may be an increased usage of Project Management Frameworks and Methodologies in both academia and practice (de Carvalho, 2013). Today many organisations use PMBoK as a standard to form the foundation of in-house developed methodologies to fit the requirements of their specific environment. These methodologies include among others AGILE methodology, Rational Unified Process (RUP) framework, PRINCE2 and Six Sigma (Schwalbe, 2016).

Both RUP and AGILE methods consists of the incremental, iterative delivery of projects and are commonly used for software development where project managers control the development and delivery process (Serrador & Pinto, 2015; Stankovic, Nikolic, Djordjevic & Cao, 2013).

Two of the main methodologies commonly used for the Six Sigma includes DMAIC (Define, Measure, Analyze, Improve and Control) thereby focussing on the improvement of existing business processes and DMADV (Define, Measure, Analyze, Design and Verify) used for the development of new products and services (Schwalbe, 2016).

Two of the most significant and well-known frameworks include the Project Management Body of Knowledge (PMBoK, 2013) and Projects in Controlled Environments known as PRINCE2 (OGC, 2009), used by organisations across the globe (White & Fortune, 2002; Fortune, White, Jugdev & Walker, 2011). These two frameworks discuss the importance of communication as part of a structured communication process.

Fortune, et al. (2011) assesses the use of project management methodologies across different countries. With 150 responses from people who are actively involved in Project Management, the assessment revealed that PMBOK and PRINCE 2 are the mostly used methodologies.

The 5<sup>th</sup> edition of PMBok (2013) support Dismore and Caabani-Brewin (2006) early work on communication management where project communication management forms part of 10 knowledge areas, and consists of 3 processes that connects the project information to the project people. The 4<sup>th</sup> edition of PMBok (PMBoK, 2008) lists 5 communication processes compared to these two works. These include identifying stakeholders, planning communication, distributing information, managing stakeholders and reporting performance (Dismore & Caabani-Brewin, 2006; PMBoK, 2013).

The PRINCE2 methodology is founded on seven themes, seven principles and seven processes (OGC, 2009). In this methodology, the communication aspect is embedded into the communications management strategy. The communications management strategy includes the following communication aspects amongst others the communications procedure, reporting, and timing of communication activities and information needs.

Table 2 provides an inclusive view of both PMBoK and PRINCE 2 project management frameworks as discussed.

*Table 2: Inclusive View of Communication frameworks*

<b>PMBoK</b>	<b>PRINCE 2</b>
<i>3 communication processes</i>	<i>Communications management strategy</i>
Plan communications management	Stakeholder Analysis Communication procedure Roles and responsibilities Tools and techniques Records Timing of communication activities (depicts when communications needs to happen)
Managing communications	Information needs
Control Communications	Reporting Timing of communication activities (Control Measurement: Performance audits)

The inclusive view of Table 2 provides a perfect picture of how the individual components of each framework fits into one another. The PMBoK have three (3) main communication processes, which form the main categories for the smaller components of the PRINCE 2 communications management strategy. It is also evident that the communication management strategy of PRINCE 2 has been broken into smaller sections, which ensures that this particular area namely communication, is managed better.

No use or limited use of project management methodologies in an organization can lead to the inefficiency of projects and ultimately to the failure of a project. Berssaneti and Carvalho (2015) makes it clear that the adoption of project management methodologies driven by the international bodies of knowledge management in project management leads to the improvement of project performance.

Joslin and Muller (2015) also states that the adoption of a project management methodology leads to a higher chance of project success. Other tools may also be used in conjunction with project standards and methodologies. The next section discusses other tools and techniques that may be used for project communication.



## **Project communication management tools**

Communication in projects occur in various formats; these include presentations, formal meetings, informal discussions, formal project documents, records and meeting memorandums. For communication to take place or for information to be shared effectively within projects, communication needs to be facilitated and supported by some form of media (de Carvalho, 2013). These media are more commonly known as project communication tools within the project management environment.

Tools used in project communication includes among others: intranet (project databases), internet, (e-mail, chat, skype), telephones, videoconferencing, VOIP and face-to-face. Projects by nature are complex, and may involve cross-functional and intercontinental collaboration with delivery or implementations spread across multiple client sites. Over and above this, one must consider the complex stakeholder relationships that must be managed. It is therefore imperative that communication be efficient and effective to foster a successful project environment.

Young (1995) assesses the importance of face-to face communication versus the use of electronic communication tools. He concluded that face-to-face communication indeed serves as the most effective medium for project engagement, as it allows the project manager to gauge the customer's and/ or team's mood. It also enables the project manager to assess the body language of the particular stakeholder while listening to the tone of the voice to determine their level of satisfaction with the status or project progress (Schwalbe, 2016).

Today face-to-face communication also takes place via modern technology especially when the different parties are not at the same physical location. Skype is one such technology medium used to conduct professional face-to-face meetings through video conference calls and serves as a cost effective method of communication (Baruah, 2012; Lustenberger, 2013).

There are also other non-direct forms of communications which occur in project management. Projects rely extensively on non-direct forms of communication tools, which include among others telephone calls, internet (chats, e-mails), intranet (project databases) and paper-based manuals (Harley, 2011; Ziek & Anderson, 2015).

These indirect methods of communication are equally as important as direct communication methods, and some projects may use one form more than the other form, depending on the specific objective or outcome that needs to be achieved.

Non-direct communication is very important as it provides a means of transmitting information extracted from the intranet tools for distribution via the internet (de Carvalho, 2013). The benefit of this method of communication is that it provides project stakeholders with an audit trail of the communication and they then have the ability to revert to the audit trail when needed. This is a preferred method of communication as opposed to an informal face-to-face discussion where verbal conversations are not recorded. The drawback to this is that whenever technology is involved, there is always a risk of the technology failing and a back-up method (usually paper-based) becomes the fallback.

It must be noted that the method of communication used for project communication has a major impact on the outcomes achieved. Today, WhatsApp is also commonly used as a tool which serves as both a direct and indirect project communications tool.

The next section discusses the use of social media in project management and how it impacts projects.

## **Social media in project management**

Social Media is a collection of internet-based applications (Kaplan & Haenlein, 2010), publishing technologies (Terry, 2009) or digital technologies (Lewis, 2010) which enable the producing and sharing of user generated content (UGC). Social Media also serves as an “interactive communication channel” for a multi-way interaction where users can “time-shift” and engage with other users at any given time (Kent, 2010) or use it as a way to “fill time” (Kent, 2013).

The use of Social Media as a project management tool is still a relatively new and debatable issue within the literature. With the complex nature of projects, there is a requirement for tools that enable high levels of collaboration, information sharing, content generation, innovation and interaction in order to manage and complete projects.

Project Management 2.0 is a fairly new term that was coined by Andrew Filev (Filev, 2008) which is enabled by social media and provides a platform for interaction and collaboration within the enterprise environment. It enables anyone to generate content, review the content, vote on content using voting buttons, score content and rank content. Only the project team members and stakeholders who belong to the said community (Levitt, 2011) have this ability, thus operating similarly to a Community of Practice (CoP). This type of tool transforms the role of the project manager as it involves more interactive communication and collaboration, which moves away from the traditional form of manual operational tasks.

Social Media tools in conjunction with traditional tools may be used to improve communication, collaboration and innovation in complex project environment (Bertoni, Chirumalla & Johansson, 2012; Juarez-Ramirez, Pimienta-Romo & Ocegueda-Miramontes, 2012). In project management both, project stakeholders and data are equally important as they complement each other. One cannot function optimally without the other.

On the other hand, companies are fast becoming more innovative with the toolsets used to manage projects, ranging from the industry standard tools to in-house developed tools. Andrew McAfee (2006) coined the term Enterprise 2.0 in 2006 when he noticed how organisations were transitioning into higher use of these toolsets. These toolsets include software tools such as shared Gantt charts, notices, group calendars, blogs, wikis, social networking sites and RSS feeds. Not only do the tools connect project stakeholders who are geographically dispersed, but it also enables them to innovate, communicate, interact and share information in a manner that was not possible before (Mnkandla, 2013).

Various authors (Guesalaga, 2016; Levy, 2013; Schneckenburg, 2009) have discussed the great benefits and empowerment that the utilization of these tools can provide to an organisation, especially in terms of collaboration, knowledge sharing and communication.

The use of Social Media would serve as an informal communications tool within the project management discipline. The communication channel for Social Media would be a mobile phone in most instances, especially if instant messaging such as WhatsApp is being used to enable communication for urgent information requests and information distribution. The type of communication between project managers and other project stakeholders will be as frequent as possible due to the instant availability of mobile workers on their cellular devices.

However as much as the use of Social Media within project management can have a positive transformational impact on the project management discipline, one needs to bear in mind that there can also be a negative impacts attached to the use of Social Media. WhatsApp messaging for instance can intrude on one’s personal time due to the instant response and availability it provides. Since most people

usually carry their mobile devices with them, they are expected to be reachable at any point in time. The consequence of this is the imbalance of work-life as it forces project stakeholders to work more hours than anticipated and it detracts from precious family time.

With WhatsApp being an instant messaging tool, often words are shortened and conversations between people are informal. This may result in “poor writing” which may lead to confusion and misunderstanding between project team members (Schwalbe, 2016). When people do not know how to utilize the features of the tools, this form of communication medium cannot be effective in providing clear understandable messages.

Another issue that should be considered is the confidentiality of corporate information being shared over a medium intended for private usage: Who has access to the mobile phone through which information are being shared? What type of information is being shared? Is the medium appropriate for the type of audience that needs to be reached? If project stakeholders do not understand how to effectively use Social Media as a communication tool, this will result in the medium being ineffective with a negative impact on the project performance.

It is still unclear whether organisations realise the potential value they can reap from good communication in project management and the effective use of these communication tools (Blankevoort, 1984; Ramsing, 2009; Cervone, 2014). Most organisations and project stakeholders that take these tools for granted or simply just do not use them.

This article addresses two questions with regard to communications within project management. It aims to investigate and evaluate the impact of communication on the performance of a project, and explore what the best set of tools and techniques are to manage communication successfully.

The following sub questions had been identified to answer the two main research questions.

- i. Research Question 1 (RQ1): How important is communications within project management?
- ii. Research Question 2 (RQ2): What are the tools and techniques used for successful management of project communication?
- iii. Research Question 3 (RQ3): What Social Media and Multimedia tools can be used to improve project communications
- iv. Research Question 4 (RQ4): What is the impact of communication on project outcomes

## **RESEARCH METHODOLOGY**

The purpose of this section in this paper is to discuss the research design, data collection and analysis methods used to address the problem and answer the research questions. This research used a quantitative research approach to answer the sub questions outlined in the previous literature review section.

The chosen research method is best suitable for these studies as it enables the answering of research questions through the collection of numerical data and statistically analyzing the data. The sample population for this study focused on professionals who were actively involved with projects on a daily basis which included project managers, consultants, senior and line business unit managers, project team members, technical experts etc. as their responses were considered to be relevant to the study.

The research design used was a survey design in the form of a standardized questionnaire, organized into four sections. The four sections were as follows: project manager information; project manager competence; project communication importance and project communication tools. These sections

consisted of questions relating to the main and sub-research questions in this article. The questions in the survey were mostly close-ended questions in the form of multiple-choice questions, yes/no type questions, and 5-Likert Scale options keeping open ended questions to a minimum. The aim was to study only known variables covered during the literature review study.

The survey was designed and distributed electronically using an online tool called e-surveycreator. A total of 53 valid questionnaires were received and the data was collected and administered using the online tool together with statistical analysis from Microsoft excel 97-2003 version, calculating the mean and mode to assess patterns and trends in the quantitative data (Van Wyk & Marnewick, 2016).

## RESULTS AND DISCUSSIONS

The aim of the research paper is to uncover the relationship between communication and project performance and also to shed light on the current project management practice. The literature review indicated the importance of communication largely: in terms of a success factor, a required skill and competency for project managers as well as the framework and communication management available to manage project communication. The survey results were aimed at testing the literature review and to establish the importance of communication in practice.

### Demographics

Figure 2 presents a summary of the industries in which the participant projects are being conducted.

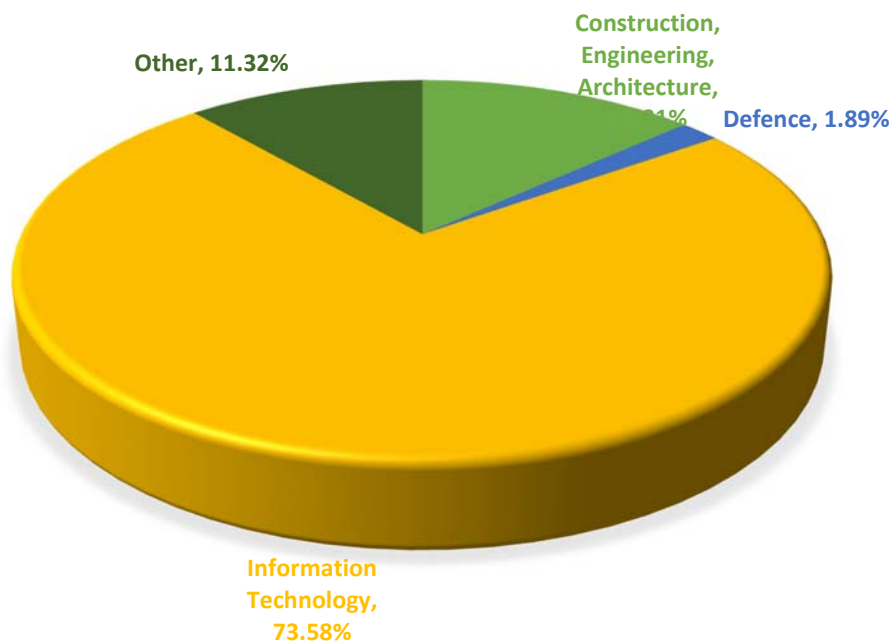


Figure 2. Industry representation

Figure 2 clearly depicts the Information and Communication technology (ICT) industry makes up for the highest industry across the 53 participants with a percentage of 73, 58. The split between male and female participants within the ICT industry reflects male respondents at 49 percent, which is higher compared to

the 25 percentage female representation. This confirms that the ICT industry is predominantly a male industry.

Figure 3 graphically shows the current position of the responded versus the years of experience they have.

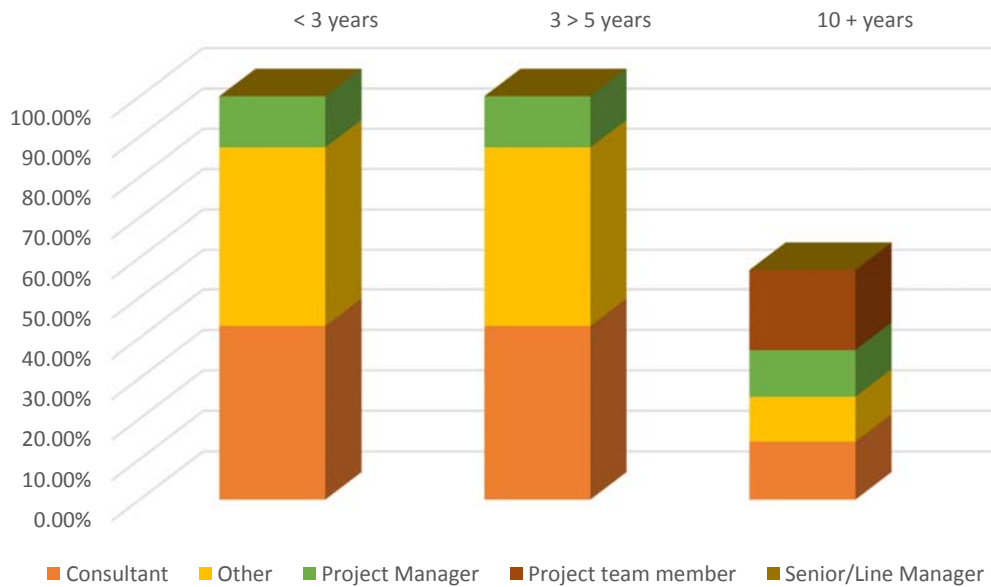


Figure 3. Role versus experience

The results in figure 3 clearly reflect the active involvement of all respondents in project management, ranging from project managers to consultants and senior line managers. Consultants and other professions make up for most of the positions being held amongst the participants with an average experience between 3 to 5 years.

*RQ1: How important is communications within project management?*

Figure 4 represents the respondents who indicated their roles as project managers including their response on whether communication is the most important factor and their level of competence.

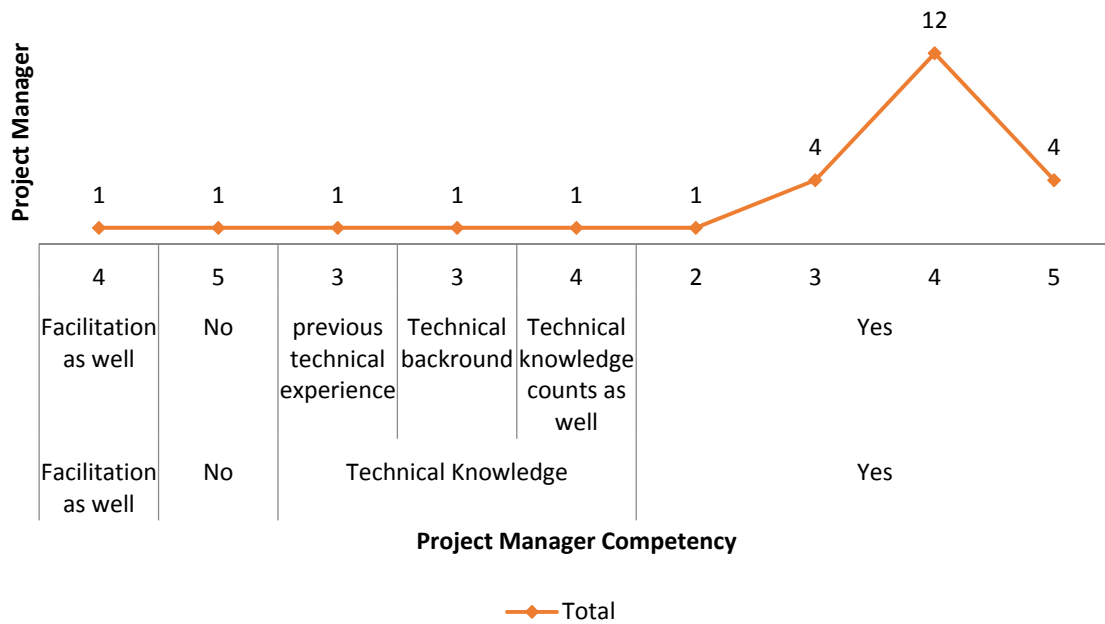


Figure 4. Project manager role versus competence

The results for Figure 4 reflects 49 percent of the participants indicated their current role was as project managers and 80 percent responded “Yes” when asked if they regarded communication as the most important factor contributing to the success of the project. The 80, 8 percent who selected “yes” had an average of 5, 2 competency and the median was 4, the most competency value rated indicated a high level of competence amongst project managers.

Figure 5 assessed the importance of the communications area using a 5-point Likert-Scale question.

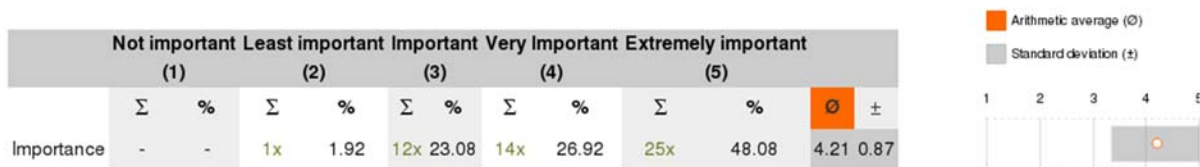


Figure 5. The importance of communication

The results in Figure 5 indicates 98, 08 percent of the respondents rated communication to be important with an arithmetic average of 4.21 and a standard deviation of 0.87.

The results from both Figure 4 and 5 yielded a very high result, which supports the literature review indicating that communication is seen as an important skill required by project managers (Thamhain & Gemill, 1974) and also that communication is used as a method by project managers to complete their daily project management activities (Slevin & Pinto, 1987). This is indicative of the perceived value of the communication aspect and through the assessment of the importance of communication within project

management it appears to be the key to determining the impact of communication on the performance of the project.

RQ2: What are the tools and techniques used for successful management of project communication?

Figure 6 assesses the usage of the framework and methodology tools amongst the participants.



Figure 6. Framework tools

Figure 6 indicated that there is a significant high usage with over 90% of the framework and methodologies tools to manage the communications area. The Arithmetic average for majority of the components ranged between a minimum value of 1.75 and a maximum value of 2.84 with a median of 2.34.

RQ3: What Social Media and Multimedia tools can be used to improve project communications?

Figure 7 reflects the usage of multimedia, social media tools and the frequency amongst the participants. A 5-point Likert scale question was used to assess each tool and the frequency ranging from 1 = daily to 5 – not applicable.

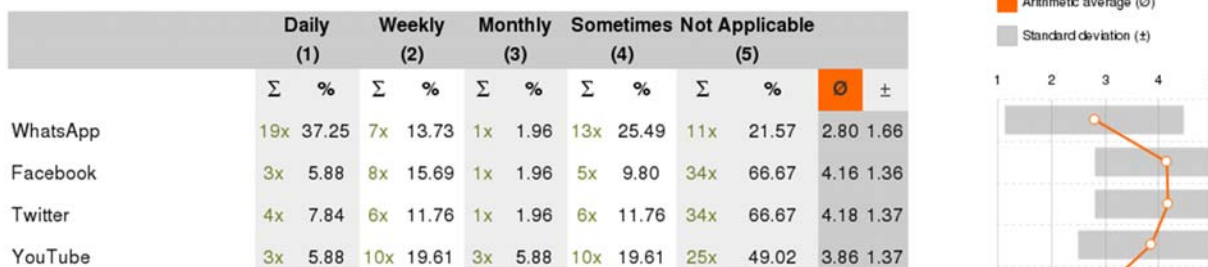


Figure 7. Social Media and Multi Media Tools

The results from figure 7 clearly reflects Whatsapp has the highest of 37,25 percentage daily usage for project communications with a standard deviation of 1.66. An additional open ended question in the survey assessed the impact of the usage of MM and SM tools for project communications. Interesting descriptive comments revealed that the majority of the respondents felt those tools had a very positive impact on their project outcomes, especially WhatsApp which served as a tool for urgent updates, information requests or dissemination of messages. A few comments indicated that these SM tools negatively impacted on their private lives as work discussions tended to occur outside of business hours due to the all-time visibility. This serves to highlight the negative impact of Social media as an instant messaging tool as was mentioned earlier in the literature review. This indicates that whilst these tools aid in providing an improved means of communication and are quite powerful, they should nevertheless be managed accordingly and approached with caution.

RQ4: What is the impact of communication on project outcomes?

Figure 8 indicates the participants established role, response to communication as a success factor and the number of projects completed over last two years which failed or succeeded.

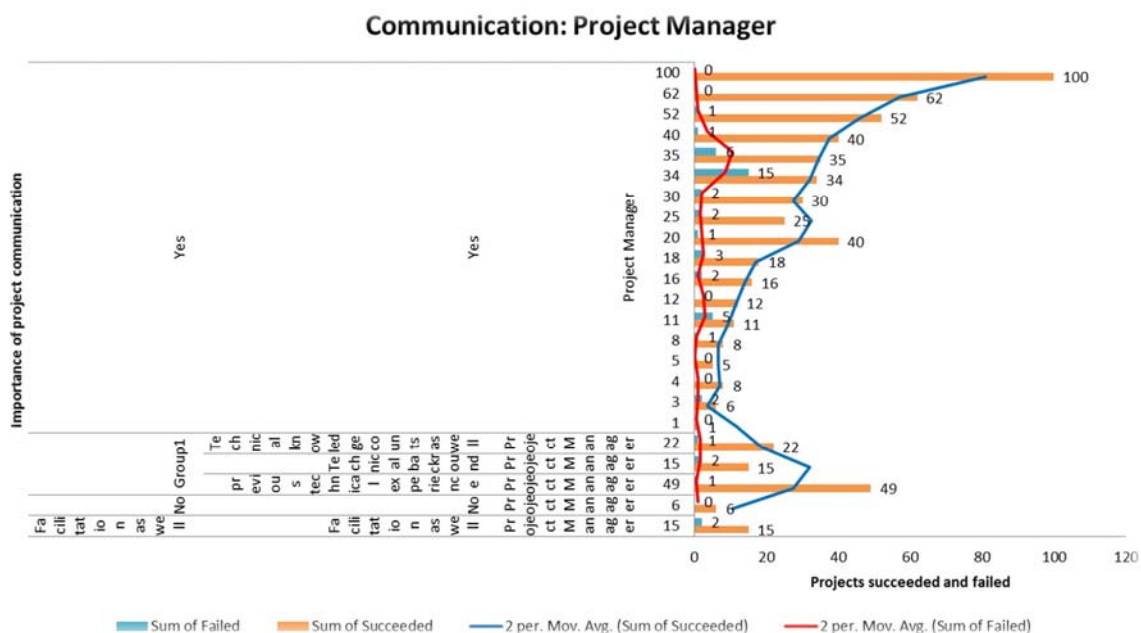


Figure 8. The impact of communication on project outcomes The results of Figure 8 reflect 49% of the participants indicated their roles as a project manager of which 80% responded “yes” to communication as the most important aspect contributing to project success. The 80% shows a high rate of projects that were successfully completed with very little failure over the last two years.

The impact on the project performance is the main research question aiding both the literature study as well as the research instrument. Assessing the success and failure rate of the projects completed over the last two years for the respondents who regard communication as a factor impacting the outcomes and rating the importance of communication as highly important provides an indication of the contribution that communication makes towards the performance of a project. It is evident that the project managers who regards communication as an important factor had a significantly high percentage of successfully completed projects over the last two years, which indicates that communication definitely impacts the outcomes of the project.



## **CONCLUSIONS, RECOMMENDATIONS AND FURTHER RESEARCH**

The following section concludes the main findings of this research. It also provides recommendations for future research based on the foundation that was laid down through this study.

Communication has a positive and increased success rate on project outcomes. The vital role of communication in practice is clearly realised and makes a substantial contribution to the body of knowledge by producing the empirical evidence in this study. This is evident in the high usage of framework and communication management tools across the industries where communication is being managed as part of a structured communications process.

Moreover, respondents, project managers in particular those who regard communication as an important factor influencing the outcomes of their project clearly had high success rates across their completed projects over the last two years.

It can therefore be concluded that project managers in particular, see the high value and the importance of communication and its impact on their day-to-day project management activities. This is relevant to the literature view that communication is a required skill that lays the foundation for influencing the conditions and outcomes of a project.

The high volumes of success rates across all participants speak volumes of the impact that communication has had on project outcomes. Unfortunately, until project managers personally realise how critical good communication is to project management and how ineffective communication can impact the chances of a project's success, project failure will continuously be a top priority on management agendas.

This work forms the basis of further in-depth development into the use of other tools such as Social Media (SM) and Multi Media (MM). SM and MM has the potential of becoming a powerful tool that can be used within the project management field to improve project communication. The use of SM in projects is still a highly debatable issue (Debora, Marcirio, Oliveira & Pedron, 2016). The exploration of how Social Media specifically can improve communication in project management will make an immense contribution to the body of knowledge as this is still a developing and growing area within the project management discipline.

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